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<110> Immunex Corporation

<120> NEW METALLOPROTEINASE-DISINTEGRIN FAMILY MEMBERS: SVPH
DNAS AND POLYPEPTIDES

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<150> 60/116,670

<151> 1999-01-21

<150> 60/138,682

<151> 1999-06-14

<150> 60/155,798

<151> 1999-09-27

<160> 33

<170> PatentIn Ver. 2.1

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<211> 129

<212> DNA

<213> Homo sapiens

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<223> "n" at various positions throughout the sequence
may be any nucleotide

<400> 1

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<211> 469

<212> DNA

<213> Homo sapiens

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<211> 1500

<212> DNA

<213> Homo sapiens

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<210> 4
<211> 40
<212> PRT
<213> Homo sapiens

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<220>
<223> "Xaa" at various positions throughout the sequence
      may be any amino acid

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Val Gly His Cys Gly Ile Lys Asn
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<210> 5
<211> 123
<212> PRT
<213> Homo sapiens

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 1              5              10              15

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      20              25              30

Glu Lys Arg Tyr Gly Asn Leu Ser His Val Lys Met Met Ala Ser Ser

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Gln Leu Pro His Gly Asp Phe Phe Ile Glu Pro Val Lys Lys His Pro		
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Leu Val Glu Gly Gly Tyr His Pro His Ile Val Tyr Arg Arg Gln Lys		
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<211> 499		
<212> PRT		
<213> Homo sapiens		
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Cys Leu Asn Asn Ile Pro Gly Leu Gly Tyr Val Leu Lys Arg Cys Gly		
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Asn Lys Ile Val Glu Asp Asn Glu Glu Cys Asp Cys Gly Ser Thr Glu		
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Glu Cys Gln Lys Asp Arg Cys Cys Gln Ser Asn Cys Lys Leu Gln Pro		
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Pro Ser Gly Tyr Val Cys Arg Gln Glu Gly Asn Glu Cys Asp Leu Ala		
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Glu Tyr Cys Asp Gly Asn Ser Ser Ser Cys Pro Asn Asp Val Tyr Lys		
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Gln Asp Gly Thr Pro Cys Lys Tyr Glu Gly Arg Cys Phe Arg Lys Gly		

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<210> 7

<211> 2301
 <212> DNA
 <213> Homo sapiens

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 <212> DNA
 <213> Homo sapiens

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<210> 9
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<210> 10
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 <212> DNA
 <213> Homo sapiens

<400> 11

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 <212> PRT
 <213> Homo sapiens

<400> 12

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Val	Val	Ile	Pro	Val	Arg	Ile	Thr	Gly	Thr	Thr	Arg	Gly	Met	Thr	Pro
		35					40					45			
Pro	Gly	Trp	Leu	Ser	Tyr	Ile	Leu	Pro	Phe	Gly	Gly	Gln	Lys	His	Ile
	50					55					60				
Ile	His	Ile	Lys	Val	Lys	Lys	Leu	Leu	Phe	Ser	Lys	His	Leu	Pro	Val
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Phe	Thr	Tyr	Thr	Asp	Gln	Gly	Ala	Ile	Leu	Glu	Asp	Gln	Pro	Phe	Val
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Gln	Asn	Asn	Cys	Tyr	Tyr	His	Gly	Tyr	Val	Glu	Gly	Asp	Pro	Glu	Ser
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Leu	Val	Ser	Leu	Ser	Thr	Cys	Phe	Gly	Gly	Phe	Gln	Gly	Ile	Leu	Gln
		115					120					125			
Ile	Asn	Asp	Phe	Ala	Tyr	Glu	Ile	Lys	Pro	Leu	Ala	Phe	Ser	Thr	Thr
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Phe	Glu	His	Leu	Val	Tyr	Lys	Met	Asp	Ser	Glu	Glu	Lys	Gln	Phe	Ser
145					150					155					160
Thr	Met	Arg	Ser	Gly	Phe	Met	Gln	Asn	Glu	Ile	Thr	Cys	Arg	Met	Glu
				165					170					175	
Phe	Glu	Glu	Ile	Asp	Asn	Ser	Thr	Gln	Lys	Gln	Ser	Ser	Tyr	Val	Gly
			180					185					190		
Trp	Trp	Ile	His	Phe	Arg	Ile	Val	Glu	Ile	Val	Val	Val	Ile	Asp	Asn
		195					200					205			
Tyr	Leu	Tyr	Ile	Arg	Tyr	Glu	Arg	Asn	Asp	Ser	Lys	Leu	Leu	Glu	Asp
	210					215					220				
Leu	Tyr	Val	Ile	Val	Asn	Ile	Val	Asp	Ser	Ile	Leu	Asp	Val	Ile	Gly
225					230					235					240
Val	Lys	Val	Leu	Leu	Phe	Gly	Leu	Glu	Ile	Trp	Thr	Asn	Lys	Asn	Leu
				245					250					255	
Ile	Val	Val	Asp	Asp	Val	Arg	Lys	Ser	Val	His	Leu	Tyr	Cys	Lys	Trp
			260					265					270		
Lys	Ser	Glu	Asn	Ile	Thr	Pro	Arg	Met	Gln	His	Asp	Thr	Ser	His	Leu
		275					280					285			
Phe	Thr	Thr	Leu	Gly	Leu	Arg	Gly	Leu	Ser	Gly	Ile	Gly	Ala	Phe	Arg
	290					295					300				
Gly	Met	Cys	Thr	Pro	His	Arg	Ser	Cys	Ala	Ile	Val	Thr	Phe	Met	Asn
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Lys Thr Leu Gly Thr Phe Ser Ile Ala Val Ala His His Leu Gly His
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 Asn Leu Gly Met Asn His Asp Glu Asp Thr Cys Arg Cys Ser Gln Pro
 340 345 350
 Arg Cys Ile Met His Glu Gly Asn Pro Pro Ile Thr Lys Phe Ser Asn
 355 360 365
 Cys Ser Tyr Gly Asp Phe Trp Glu Tyr Thr Val Glu Arg Thr Lys Cys
 370 375 380
 Leu Leu Glu Thr Val His Thr Lys Asp Ile Phe Asn Val Lys Arg Cys
 385 390 395 400
 Gly Asn Gly Val Val Glu Glu Gly Glu Glu Cys Asp Cys Gly Pro Leu
 405 410 415
 Lys His Cys Ala Lys Asp Pro Cys Cys Leu Ser Asn Cys Thr Leu Thr
 420 425 430
 Asp Gly Ser Thr Cys Ala Phe Gly Leu Cys Cys Lys Asp Cys Lys Phe
 435 440 445
 Leu Pro Ser Gly Lys Val Cys Arg Lys Glu Val Asn Glu Cys Asp Leu
 450 455 460
 Pro Glu Trp Cys Asn Gly Thr Ser His Lys Cys Pro Asp Asp Phe Tyr
 465 470 475 480
 Val Glu Asp Gly Ile Pro Cys Lys Glu Arg Gly Tyr Cys Tyr Glu Lys
 485 490 495
 Ser Cys His Asp Arg Asn Glu Gln Cys Arg Arg Ile Phe Gly Ala Gly
 500 505 510
 Ala Asn Thr Ala Ser Glu Thr Cys Tyr Lys Glu Leu Asn Thr Leu Gly
 515 520 525
 Asp Arg Val Gly His Cys Gly Ile Lys Asn Ala Thr Tyr Ile Lys Cys
 530 535 540
 Asn Ile Ser Asp Val Gln Cys Gly Arg Ile Gln Cys Glu Asn Val Thr
 545 550 555 560
 Glu Ile Pro Asn Met Ser Asp His Thr Thr Val His Trp Ala Arg Phe
 565 570 575
 Asn Asp Ile Met Cys Trp Ser Thr Asp Tyr His Leu Gly Met Lys Gly
 580 585 590
 Pro Asp Ile Gly Glu Val Lys Asp Gly Thr Glu Cys Gly Ile Asp His
 595 600 605
 Ile Cys Ile His Arg His Cys Val His Ile Thr Ile Leu Asn Ser Asn
 610 615 620
 Cys Ser Pro Ala Phe Cys Asn Lys Arg Gly Ile Cys Asn Asn Lys His
 625 630 635 640

His Cys His Cys Asn Tyr Leu Trp Asp Pro Pro Asn Cys Leu Ile Lys
 645 650 655
 Gly Tyr Gly Gly Ser Val Asp Ser Gly Pro Pro Pro Lys Arg Lys Lys
 660 665 670
 Lys Lys Lys Phe Cys Tyr Leu Cys Ile Leu Leu Leu Ile Val Leu Phe
 675 680 685
 Ile Leu Leu Cys Cys Leu Tyr Arg Leu Cys Lys Lys Ser Lys Pro Ile
 690 695 700
 Lys Lys Gln Gln Asp Val Gln Thr Pro Ser Ala Lys Glu Glu Glu Lys
 705 710 715 720
 Ile Gln Arg Arg Pro His Glu Leu Pro Pro Gln Ser Gln Pro Trp Val
 725 730 735
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 Gln Leu Met Pro Ser Gln Ser Gln Pro Pro Val Thr Pro Ser
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 <212> PRT
 <213> Homo sapiens

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 Ser Gly His Ile Gln Asp Glu His Pro Gln Tyr His Ser Pro Pro Asp
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 Val Val Ile Pro Val Arg Ile Thr Gly Thr Thr Arg Gly Met Thr Pro
 35 40 45
 Pro Gly Trp Leu Ser Tyr Ile Leu Pro Phe Gly Gly Gln Lys His Ile
 50 55 60
 Ile His Ile Lys Val Lys Lys Leu Leu Phe Ser Lys His Leu Pro Val
 65 70 75 80
 Phe Thr Tyr Thr Asp Gln Gly Ala Ile Leu Glu Asp Gln Pro Phe Val
 85 90 95
 Gln Asn Asn Cys Tyr Tyr His Gly Tyr Val Glu Gly Asp Pro Glu Ser
 100 105 110
 Leu Val Ser Leu Ser Thr Cys Phe Gly Gly Phe Gln Gly Ile Leu Gln
 115 120 125
 Ile Asn Asp Phe Ala Tyr Glu Ile Lys Pro Leu Ala Phe Ser Thr Thr
 130 135 140
 Phe Glu His Leu Val Tyr Lys Met Asp Ser Glu Glu Lys Gln Phe Ser
 145 150 155 160

Thr Met Arg Ser Gly Phe Met Gln Asn Glu Ile Thr Cys Arg Met Glu
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 Phe Glu Glu Ile Asp Asn Ser Thr Gln Lys Gln Ser Ser Tyr Val Gly
 180 185 190
 Trp Trp Ile His Phe Arg Ile Val Glu Ile Val Val Val Ile Asp Asn
 195 200 205
 Tyr Leu Tyr Ile Arg Tyr Glu Arg Asn Asp Ser Lys Leu Leu Glu Asp
 210 215 220
 Leu Tyr Val Ile Val Asn Ile Val Asp Ser Ile Leu Asp Val Ile Gly
 225 230 235 240
 Val Lys Val Leu Leu Phe Gly Leu Glu Ile Trp Thr Asn Lys Asn Leu
 245 250 255
 Ile Val Val Asp Asp Val Arg Lys Ser Val His Leu Tyr Cys Lys Trp
 260 265 270
 Lys Ser Glu Asn Ile Thr Pro Arg Met Gln His Asp Thr Ser His Leu
 275 280 285
 Phe Thr Thr Leu Gly Leu Arg Gly Leu Ser Gly Ile Gly Ala Phe Arg
 290 295 300
 Gly Met Cys Thr Pro His Arg Ser Cys Ala Ile Val Thr Phe Met Asn
 305 310 315 320
 Lys Thr Leu Gly Thr Phe Ser Ile Ala Val Ala His His Leu Gly His
 325 330 335
 Asn Leu Gly Met Asn His Asp Glu Asp Thr Cys Arg Cys Ser Gln Pro
 340 345 350
 Arg Cys Ile Met His Glu Gly Asn Pro Pro Ile Thr Lys Phe Ser Asn
 355 360 365
 Cys Ser Tyr Gly Asp Phe Trp Glu Tyr Thr Val Glu Arg Thr Lys Cys
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 385 390 395 400
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 Lys His Cys Ala Lys Asp Pro Cys Cys Leu Ser Asn Cys Thr Leu Thr
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 Asp Gly Ser Thr Cys Ala Phe Gly Leu Cys Cys Lys Asp Cys Lys Phe
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 Leu Pro Ser Gly Lys Val Cys Arg Lys Glu Val Asn Glu Cys Asp Leu
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 Pro Glu Trp Cys Asn Gly Thr Ser His Lys Cys Pro Asp Asp Phe Tyr
 465 470 475 480
 Val Glu Asp Gly Ile Pro Cys Lys Glu Arg Gly Tyr Cys Tyr Glu Lys

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Ser	Cys	His	Asp	Arg	Asn	Glu	Gln	Cys	Arg	Arg	Ile	Phe	Gly	Ala	Gly
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Ala	Asn	Thr	Ala	Ser	Glu	Thr	Cys	Tyr	Lys	Glu	Leu	Asn	Thr	Leu	Gly
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Glu	Ile	Pro	Asn	Met	Ser	Asp	His	Thr	Thr	Val	His	Trp	Ala	Arg	Phe
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Asn	Asp	Ile	Met	Cys	Trp	Ser	Thr	Asp	Tyr	His	Leu	Gly	Met	Lys	Gly
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Pro	Asp	Ile	Gly	Glu	Val	Lys	Asp	Gly	Thr	Glu	Cys	Gly	Ile	Asp	His
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Ile	Cys	Ile	His	Arg	His	Cys	Val	His	Ile	Thr	Ile	Leu	Asn	Ser	Asn
	610					615					620				
Cys	Ser	Pro	Ala	Phe	Cys	Asn	Lys	Arg	Gly	Ile	Cys	Asn	Asn	Lys	His
625					630					635					640
His	Cys	His	Cys	Asn	Tyr	Leu	Trp	Asp	Pro	Pro	Asn	Cys	Leu	Ile	Lys
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Gly	Tyr	Gly	Gly	Ser	Val	Asp	Ser	Gly	Pro	Pro	Pro	Lys	Arg	Lys	Lys
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Lys	Lys	Lys	Phe	Cys	Tyr	Leu	Cys	Ile	Leu	Leu	Leu	Ile	Val	Leu	Phe
		675					680					685			
Ile	Leu	Leu	Cys	Cys	Leu	Tyr	Arg	Leu	Cys	Lys	Lys	Ser	Lys	Pro	Ile
	690					695					700				
Lys	Lys	Gln	Gln	Asp	Val	Gln	Thr	Pro	Ser	Ala	Lys	Glu	Glu	Glu	Lys
705					710					715					720
Ile	Gln	Arg	Arg	Pro	His	Glu	Leu	Pro	Pro	Gln	Ser	Gln	Pro	Trp	Val
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Met	Pro	Ser	Gln	Ser	Gln	Pro	Pro	Val	Thr	Pro	Ser	Gln	Ser	His	Pro
			740					745					750		
Gln	Val	Met	Pro	Ser	Gln	Ser	Gln	Pro	Pro	Gln	Asn	Leu	Phe	Leu	Phe
		755					760					765			
Ser	Phe	Ser	Ile	Ser	Asp	Cys	Val	Leu	Asn	Phe	Arg	Leu	Leu	Tyr	Leu
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Gln	Ala	Thr													
785															

<210> 14

<400> 14

<213> Homo sapiens

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Lys	Thr	Leu	Gly	Thr	Phe	Ser	Ile	Ala	Val	Ala	His	His	Leu	Gly	His
				325					330					335	
Asn	Leu	Gly	Met	Asn	His	Asp	Glu	Asp	Thr	Cys	Arg	Cys	Ser	Gln	Pro
			340					345					350		
Arg	Cys	Ile	Met	His	Glu	Gly	Asn	Pro	Pro	Ile	Thr	Lys	Phe	Ser	Asn
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Cys	Ser	Tyr	Gly	Asp	Phe	Trp	Glu	Tyr	Thr	Val	Glu	Arg	Thr	Lys	Cys
	370					375					380				
Leu	Leu	Glu	Thr	Val	His	Thr	Lys	Asp	Ile	Phe	Asn	Val	Lys	Arg	Cys
385					390					395					400
Gly	Asn	Gly	Val	Val	Glu	Glu	Gly	Glu	Glu	Cys	Asp	Cys	Gly	Pro	Leu
				405					410					415	
Lys	His	Cys	Ala	Lys	Asp	Pro	Cys	Cys	Leu	Ser	Asn	Cys	Thr	Leu	Thr
			420					425					430		
Asp	Gly	Ser	Thr	Cys	Ala	Phe	Gly	Leu	Cys	Cys	Lys	Asp	Cys	Lys	Phe
		435					440					445			
Leu	Pro	Ser	Gly	Lys	Val	Cys	Arg	Lys	Glu	Val	Asn	Glu	Cys	Asp	Leu
	450					455					460				
Pro	Glu	Trp	Cys	Asn	Gly	Thr	Ser	His	Lys	Cys	Pro	Asp	Asp	Phe	Tyr
465					470					475					480
Val	Glu	Asp	Gly	Ile	Pro	Cys	Lys	Glu	Arg	Gly	Tyr	Cys	Tyr	Glu	Lys
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Ser	Cys	His	Asp	Arg	Asn	Glu	Gln	Cys	Arg	Arg	Ile	Phe	Gly	Ala	Gly
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Ala	Asn	Thr	Ala	Ser	Glu	Thr	Cys	Tyr	Lys	Glu	Leu	Asn	Thr	Leu	Gly
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Glu	Ile	Pro	Asn	Met	Ser	Asp	His	Thr	Thr	Val	His	Trp	Ala	Arg	Phe
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Asn	Asp	Ile	Met	Cys	Trp	Ser	Thr	Asp	Tyr	His	Leu	Gly	Met	Lys	Gly
			580					585					590		
Pro	Asp	Ile	Gly	Glu	Val	Lys	Asp	Gly	Thr	Glu	Cys	Gly	Ile	Asp	His
		595					600					605			
Ile	Cys	Ile	His	Arg	His	Cys	Val	His	Ile	Thr	Ile	Leu	Asn	Ser	Asn
	610					615					620				

Cys Ser Pro Ala Phe Cys Asn Lys Arg Gly Ile Cys Asn Asn Lys His
 625 630 635 640
 His Cys His Cys Asn Tyr Leu Trp Asp Pro Pro Asn Cys Leu Ile Lys
 645 650 655
 Gly Tyr Gly Gly Ser Val Asp Ser Gly Pro Pro Pro Lys Arg Lys Lys
 660 665 670
 Lys Lys Lys Phe Cys Tyr Leu Cys Ile Leu Leu Leu Ile Val Leu Phe
 675 680 685
 Ile Leu Leu Cys Cys Leu Tyr Arg Leu Cys Lys Lys Ser Lys Pro Ile
 690 695 700
 Lys Lys Gln Gln Asp Val Gln Thr Pro Ser Ala Lys Glu Glu Glu Lys
 705 710 715 720
 Ile Gln Arg Arg Pro His Glu Leu Pro Pro Gln Ser Gln Pro Trp Val
 725 730 735
 Met Pro Ser Gln Ser Gln Pro Pro Val Thr Pro Ser Gln Ser His Pro
 740 745 750
 Arg Val Met Pro Ser Gln Ser Gln Pro Pro Val Met Pro Ser Gln Ser
 755 760 765
 His Pro Gln Leu Thr Pro Ser Gln Ser Gln Pro Pro Val Met Pro Ser
 770 775 780
 Gln Ser His Pro Gln Leu Thr Pro Ser Gln Ser Gln Pro Pro Val Thr
 785 790 795 800
 Pro Ser Gln Arg Gln Pro Gln Leu Met Pro Ser Gln Ser Gln Pro Pro
 805 810 815
 Val Thr Pro Ser
 820

<210> 15
 <211> 790
 <212> PRT
 <213> Homo sapiens

<400> 15
 Met Arg Ser Val Gln Ile Phe Leu Ser Gln Cys Arg Leu Leu Leu Leu
 1 5 10 15
 Leu Val Pro Thr Met Leu Leu Lys Ser Leu Gly Glu Asp Val Ile Phe
 20 25 30
 His Pro Glu Gly Glu Phe Asp Ser Tyr Glu Val Thr Ile Pro Glu Lys
 35 40 45
 Leu Ser Phe Arg Gly Glu Val Gln Gly Val Val Ser Pro Val Ser Tyr
 50 55 60
 Leu Leu Gln Leu Lys Gly Lys Lys His Val Leu His Leu Trp Pro Lys
 65 70 75 80

Arg	Leu	Leu	Leu	Pro	Arg	His	Leu	Arg	Val	Phe	Ser	Phe	Thr	Glu	His	85	90	95
Gly	Glu	Leu	Leu	Glu	Asp	His	Pro	Tyr	Ile	Pro	Lys	Asp	Cys	Asn	Tyr	100	105	110
Met	Gly	Ser	Val	Lys	Glu	Ser	Leu	Asp	Ser	Lys	Ala	Thr	Ile	Ser	Thr	115	120	125
Cys	Met	Gly	Gly	Leu	Arg	Gly	Val	Phe	Asn	Ile	Asp	Ala	Lys	His	Tyr	130	135	140
Gln	Ile	Glu	Pro	Leu	Lys	Ala	Ser	Pro	Ser	Phe	Glu	His	Val	Val	Tyr	145	150	155
Leu	Leu	Lys	Lys	Glu	Gln	Phe	Gly	Asn	Gln	Val	Cys	Gly	Leu	Ser	Asp	165	170	175
Asp	Glu	Ile	Glu	Trp	Gln	Met	Ala	Pro	Tyr	Glu	Asn	Lys	Ala	Arg	Leu	180	185	190
Arg	Asp	Phe	Pro	Gly	Ser	Tyr	Lys	His	Pro	Lys	Tyr	Leu	Glu	Leu	Ile	195	200	205
Leu	Leu	Phe	Asp	Gln	Ser	Arg	Tyr	Arg	Phe	Val	Asn	Asn	Asn	Leu	Ser	210	215	220
Gln	Val	Ile	His	Asp	Ala	Ile	Leu	Leu	Thr	Gly	Ile	Met	Asp	Thr	Tyr	225	230	235
Phe	Gln	Asp	Val	Arg	Met	Arg	Ile	His	Leu	Lys	Ala	Leu	Glu	Val	Trp	245	250	255
Thr	Asp	Phe	Asn	Lys	Ile	Arg	Val	Gly	Tyr	Pro	Glu	Leu	Ala	Glu	Val	260	265	270
Leu	Gly	Arg	Phe	Val	Ile	Tyr	Lys	Lys	Ser	Val	Leu	Asn	Ala	Arg	Leu	275	280	285
Ser	Ser	Asp	Trp	Ala	His	Leu	Tyr	Leu	Gln	Arg	Lys	Tyr	Asn	Asp	Ala	290	295	300
Leu	Ala	Trp	Ser	Phe	Gly	Lys	Val	Cys	Ser	Leu	Glu	Tyr	Ala	Gly	Ser	305	310	315
Val	Ser	Thr	Leu	Leu	Asp	Thr	Asn	Ile	Leu	Ala	Pro	Ala	Thr	Trp	Ser	325	330	335
Ala	His	Glu	Leu	Gly	His	Ala	Val	Gly	Met	Ser	His	Asp	Glu	Gln	Tyr	340	345	350
Cys	Gln	Cys	Arg	Gly	Arg	Pro	Asn	Cys	Ile	Met	Gly	Ser	Gly	Arg	Thr	355	360	365
Gly	Phe	Ser	Asn	Cys	Ser	Tyr	Ile	Ser	Phe	Phe	Lys	His	Ile	Ser	Ser	370	375	380
Gly	Ala	Thr	Cys	Leu	Asn	Asn	Ile	Pro	Gly	Leu	Gly	Tyr	Val	Leu	Lys	385	390	395
Arg	Cys	Gly	Asn	Lys	Ile	Val	Glu	Asp	Asn	Glu	Glu	Cys	Asp	Cys	Gly			

405								410				415			
Ser	Thr	Glu	Glu	Cys	Gln	Lys	Asp	Arg	Cys	Cys	Gln	Ser	Asn	Cys	Lys
			420					425					430		
Leu	Gln	Pro	Gly	Ala	Asn	Cys	Ser	Ile	Gly	Leu	Cys	Cys	His	Asp	Cys
		435					440					445			
Arg	Phe	Arg	Pro	Ser	Gly	Tyr	Val	Cys	Arg	Gln	Glu	Gly	Asn	Glu	Cys
	450					455					460				
Asp	Leu	Ala	Glu	Tyr	Cys	Asp	Gly	Asn	Ser	Ser	Ser	Cys	Pro	Asn	Asp
465					470				475						480
Val	Tyr	Lys	Gln	Asp	Gly	Thr	Pro	Cys	Lys	Tyr	Glu	Gly	Arg	Cys	Phe
				485				490					495		
Arg	Lys	Gly	Cys	Arg	Ser	Arg	Tyr	Met	Gln	Cys	Gln	Ser	Ile	Phe	Gly
			500					505					510		
Pro	Asp	Ala	Met	Glu	Ala	Pro	Ser	Glu	Cys	Tyr	Asp	Ala	Val	Asn	Leu
		515					520					525			
Ile	Gly	Asp	Gln	Phe	Gly	Asn	Cys	Glu	Ile	Thr	Gly	Ile	Arg	Asn	Phe
	530					535					540				
Lys	Lys	Cys	Glu	Ser	Ala	Asn	Ser	Ile	Cys	Gly	Arg	Leu	Gln	Cys	Ile
545					550				555						560
Asn	Val	Glu	Thr	Ile	Pro	Asp	Leu	Pro	Glu	His	Thr	Thr	Ile	Ile	Ser
				565				570						575	
Thr	His	Leu	Gln	Ala	Glu	Asn	Leu	Met	Cys	Trp	Gly	Thr	Gly	Tyr	His
			580					585					590		
Leu	Ser	Met	Lys	Pro	Met	Gly	Ile	Pro	Asp	Leu	Gly	Met	Ile	Asn	Asp
		595					600					605			
Gly	Thr	Ser	Cys	Gly	Glu	Gly	Arg	Val	Cys	Phe	Lys	Lys	Asn	Cys	Val
	610					615					620				
Asn	Ser	Ser	Val	Leu	Gln	Phe	Asp	Cys	Leu	Pro	Glu	Lys	Cys	Asn	Thr
625					630				635						640
Arg	Gly	Val	Cys	Asn	Asn	Arg	Lys	Asn	Cys	His	Cys	Met	Tyr	Gly	Trp
				645				650					655		
Ala	Pro	Pro	Phe	Cys	Glu	Glu	Val	Gly	Tyr	Gly	Gly	Ser	Ile	Asp	Ser
			660					665					670		
Gly	Pro	Pro	Gly	Leu	Leu	Arg	Gly	Ala	Ile	Pro	Ser	Ser	Ile	Trp	Val
		675					680					685			
Val	Ser	Ile	Ile	Met	Phe	Arg	Leu	Ile	Leu	Leu	Ile	Leu	Ser	Val	Val
	690					695					700				
Phe	Val	Phe	Phe	Arg	Gln	Val	Ile	Gly	Asn	His	Leu	Lys	Pro	Lys	Gln
705					710				715						720
Glu	Lys	Met	Pro	Leu	Ser	Lys	Ala	Lys	Thr	Glu	Gln	Glu	Glu	Ser	Lys
				725				730						735	

Thr Lys Thr Val Gln Glu Glu Ser Lys Thr Lys Thr Gly Gln Glu Glu
 740 745 750
 Ser Glu Ala Lys Thr Gly Gln Glu Glu Ser Lys Ala Lys Thr Gly Gln
 755 760 765
 Glu Glu Ser Lys Ala Asn Ile Glu Ser Lys Arg Pro Lys Ala Lys Ser
 770 775 780
 Val Lys Lys Gln Lys Lys
 785 790

<210> 16
 <211> 781
 <212> PRT
 <213> Homo sapiens

<400> 16
 Met Arg Ser Val Gln Ile Phe Leu Ser Gln Cys Arg Leu Leu Leu Leu
 1 5 10 15
 Leu Val Pro Thr Met Leu Leu Lys Ser Leu Gly Glu Asp Val Ile Phe
 20 25 30
 His Pro Glu Gly Glu Phe Asp Ser Tyr Glu Val Thr Ile Pro Glu Lys
 35 40 45
 Leu Ser Phe Arg Gly Glu Val Gln Gly Val Val Ser Pro Val Ser Tyr
 50 55 60
 Leu Leu Gln Leu Lys Gly Lys Lys His Val Leu His Leu Trp Pro Lys
 65 70 75 80
 Arg Leu Leu Leu Pro Arg His Leu Arg Val Phe Ser Phe Thr Glu His
 85 90 95
 Gly Glu Leu Leu Glu Asp His Pro Tyr Ile Pro Lys Asp Cys Asn Tyr
 100 105 110
 Met Gly Ser Val Lys Glu Ser Leu Asp Ser Lys Ala Thr Ile Ser Thr
 115 120 125
 Cys Met Gly Gly Leu Arg Gly Val Phe Asn Ile Asp Ala Lys His Tyr
 130 135 140
 Gln Ile Glu Pro Leu Lys Ala Ser Pro Ser Phe Glu His Val Val Tyr
 145 150 155 160
 Leu Leu Lys Lys Glu Gln Phe Gly Asn Gln Val Cys Gly Leu Ser Asp
 165 170 175
 Asp Glu Ile Glu Trp Gln Met Ala Pro Tyr Glu Asn Lys Ala Arg Leu
 180 185 190
 Arg Asp Phe Pro Gly Ser Tyr Lys His Pro Lys Tyr Leu Glu Leu Ile
 195 200 205
 Leu Leu Phe Asp Gln Ser Arg Tyr Arg Phe Val Asn Asn Asn Leu Ser
 210 215 220

Gln	Val	Ile	His	Asp	Ala	Ile	Leu	Leu	Thr	Gly	Ile	Met	Asp	Thr	Tyr	225	230	235			240
Phe	Gln	Asp	Val	Arg	Met	Arg	Ile	His	Leu	Lys	Ala	Leu	Glu	Val	Trp		245	250			255
Thr	Asp	Phe	Asn	Lys	Ile	Arg	Val	Gly	Tyr	Pro	Glu	Leu	Ala	Glu	Val		260	265			270
Leu	Gly	Arg	Phe	Val	Ile	Tyr	Lys	Lys	Ser	Val	Leu	Asn	Ala	Arg	Leu		275	280			285
Ser	Ser	Asp	Trp	Ala	His	Leu	Tyr	Leu	Gln	Arg	Lys	Tyr	Asn	Asp	Ala	290	295	300			
Leu	Ala	Trp	Ser	Phe	Gly	Lys	Val	Cys	Ser	Leu	Glu	Tyr	Ala	Gly	Ser	305	310	315			320
Val	Ser	Thr	Leu	Leu	Asp	Thr	Asn	Ile	Leu	Ala	Pro	Ala	Thr	Trp	Pro		325	330			335
Ala	His	Glu	Leu	Gly	His	Ala	Val	Gly	Met	Ser	His	Asp	Glu	Gln	Tyr		340	345			350
Cys	Gln	Cys	Arg	Gly	Arg	Leu	Asn	Cys	Ile	Met	Gly	Ser	Gly	Arg	Thr		355	360			365
Gly	Phe	Ser	Asn	Cys	Ser	Tyr	Ile	Ser	Phe	Phe	Lys	His	Ile	Ser	Ser	370	375	380			
Gly	Ala	Thr	Cys	Leu	Asn	Asn	Ile	Pro	Gly	Leu	Gly	Tyr	Val	Leu	Lys	385	390	395			400
Arg	Cys	Gly	Asn	Lys	Ile	Val	Glu	Asp	Asn	Glu	Glu	Cys	Asp	Cys	Gly		405	410			415
Ser	Thr	Glu	Glu	Cys	Gln	Lys	Asp	Arg	Cys	Cys	Gln	Ser	Asn	Cys	Lys		420	425			430
Leu	Gln	Pro	Gly	Ala	Asn	Cys	Ser	Ile	Gly	Leu	Cys	Cys	His	Asp	Cys		435	440			445
Arg	Phe	Arg	Pro	Ser	Gly	Tyr	Val	Cys	Arg	Gln	Glu	Gly	Asn	Glu	Cys	450	455	460			
Asp	Leu	Ala	Glu	Tyr	Cys	Asp	Gly	Asn	Ser	Ser	Ser	Cys	Pro	Asn	Asp	465	470	475			480
Val	Tyr	Lys	Gln	Asp	Gly	Thr	Pro	Cys	Lys	Tyr	Glu	Gly	Arg	Cys	Phe		485	490			495
Arg	Lys	Gly	Cys	Arg	Ser	Arg	Tyr	Met	Gln	Cys	Gln	Ser	Ile	Phe	Gly		500	505			510
Pro	Asp	Ala	Met	Glu	Ala	Pro	Ser	Glu	Cys	Tyr	Asp	Ala	Val	Asn	Leu		515	520			525
Ile	Gly	Asp	Gln	Phe	Gly	Asn	Cys	Glu	Ile	Thr	Gly	Ile	Arg	Asn	Phe	530	535	540			

Lys	Lys	Cys	Glu	Ser	Ala	Asn	Ser	Ile	Cys	Gly	Arg	Leu	Gln	Cys	Ile	
545					550					555					560	
Asn	Val	Glu	Thr	Ile	Pro	Asp	Leu	Pro	Glu	His	Thr	Thr	Ile	Ile	Ser	
				565					570					575		
Thr	His	Leu	Gln	Ala	Glu	Asn	Leu	Met	Cys	Trp	Gly	Thr	Gly	Tyr	His	
			580					585					590			
Leu	Ser	Met	Lys	Pro	Met	Gly	Ile	Pro	Asp	Leu	Gly	Met	Ile	Asn	Asp	
		595					600					605				
Gly	Thr	Ser	Cys	Gly	Glu	Gly	Arg	Val	Cys	Phe	Lys	Lys	Asn	Cys	Val	
	610					615					620					
Asn	Ser	Ser	Val	Leu	Gln	Phe	Asp	Cys	Leu	Pro	Glu	Lys	Cys	Asn	Thr	
625					630					635					640	
Arg	Gly	Val	Cys	Asn	Asn	Arg	Lys	Asn	Cys	His	Cys	Met	Tyr	Gly	Trp	
				645					650					655		
Ala	Pro	Pro	Phe	Cys	Glu	Glu	Val	Gly	Tyr	Gly	Gly	Ser	Ile	Asp	Ser	
			660					665					670			
Gly	Pro	Pro	Gly	Leu	Leu	Arg	Gly	Ala	Ile	Pro	Ser	Ser	Ile	Trp	Val	
		675					680					685				
Val	Ser	Ile	Ile	Met	Phe	Arg	Leu	Ile	Leu	Leu	Ile	Leu	Ser	Val	Val	
	690					695					700					
Phe	Val	Phe	Phe	Arg	Gln	Val	Ile	Gly	Asn	His	Leu	Lys	Pro	Lys	Gln	
705					710					715					720	
Glu	Lys	Met	Pro	Leu	Ser	Lys	Ala	Lys	Thr	Glu	Gln	Glu	Glu	Ser	Lys	
				725					730					735		
Thr	Lys	Thr	Val	Gln	Glu	Glu	Ser	Lys	Thr	Lys	Thr	Gly	Gln	Glu	Glu	
			740					745					750			
Ser	Glu	Ala	Lys	Thr	Gly	Gln	Glu	Glu	Ser	Lys	Ala	Asn	Ile	Glu	Ser	
		755					760					765				
Lys	Arg	Pro	Lys	Ala	Lys	Ser	Val	Lys	Lys	Gln	Lys	Lys				
	770					775					780					

<210> 17
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:
 oligonucleotide

<400> 17
 cacctaaggt gttcaattct ttg

23

<210> 18
 <211> 23

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:
 oligonucleotide

 <400> 18
 caaatactgc aagtgagact tgc 23

<210> 19
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:
 oligonucleotide

 <400> 19
 tgcacaacta cgtgtggtgt accc 24

<210> 20
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:
 oligonucleotide

 <400> 20
 gagccactgc aattgaaaaa gtgccc 26

<210> 21
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:
 oligonucleotide

 <400> 21
 aatgatgctc ttgcatggtc g 21

<210> 22
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:
 oligonucleotide

 <400> 22
 ctttcacgga gcccatgtag ttgcag 26

<210> 23
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
oligonucleotide

<400> 23
tgaaggagaa aacgcgcaga tgtcgg

26

<210> 24
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 24
tcgataatgc atgaaggcaa cccacc

26

<210> 25
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 25
caagtctcac ttgcagtatt tgcgcc

26

<210> 26
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 26
gccactgcat gtatgggtg

19

<210> 27
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 27
gacactcttt gctttgggtc g

21

<210> 28
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
fragment

<400> 28
Asp Tyr Lys Asp Asp Asp Asp Lys
1 5

<210> 29
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
fragment

<400> 29
Pro Asp Val Ala Ser Leu Arg Gln Gln Val Glu Ala Leu Gln Gly Gln
1 5 10 15

Val Gln His Leu Gln Ala Ala Phe Ser Gln Tyr
20 25

<210> 30
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
fragment

<400> 30
Arg Met Lys Gln Ile Glu Asp Lys Ile Glu Glu Ile Leu Ser Lys Ile
1 5 10 15

Tyr His Ile Glu Asn Glu Ile Ala Arg Ile Lys Lys Leu Ile Gly Glu
20 25 30

Arg

<210> 31
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
fragment

<220>
<223> "Xaa" at various positions throughout the sequence
may be any amino acid

<400> 31
His Glu Xaa Xaa His Xaa Xaa Gly Xaa Xaa His Asp
1 5 10

<210> 32
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
fragment

<400> 32
Ser Gln Ser Gln Pro Pro Leu Met Pro
1 5

<210> 33
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
fragment

<220>
<223> "Xaa" at position 6 may be Thr or Ala

<400> 33
Gln Glu Glu Ser Lys Xaa Lys Thr Gly
1 5